

A TRIBUTE TO HOWARD CRUM

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In his tribute to me in a Festschrift honoring my 70th birthday, Howard Crum (1985) wrote that “it is difficult to write about a friend or to evaluate his career when he is still capable of making rebuttal.” This was a prescient statement because, now, ten years later, I have been asked to write a comparable piece for a Festschrift celebrating his 70th birthday. There is not really much to rebut, however; for the most part he was kind and generous to me in his tribute. To my surprise, he used discretion and tact in selecting stories about me and his exaggerations were generally within the established boundaries that we tolerate from each other. I will try to be equally discriminating and cautious in the things I write about him; nevertheless, I will probably touch a few tender spots. I think he will expect that and I wouldn’t want to disappoint him.

Because we have known each other for so long and have worked together so closely over the years we each have thick folders of incriminating letters from the other that reveal items and thoughts about colleagues and others that neither of us cares to have disclosed. Most of our letters contain, in addition to the business of the moment, ridicule of each other, continuing arguments, attempts at humor, and a large amount of foolishness. As Howard pointed out in his article about me, they contain material that should not be taken out of context. So, I, too, will refrain from mining those letters for that sort of material.

A short while after the aforementioned tribute to me appeared, I received a letter from a friend of his who stated that he learned more about Howard Crum from the article than he did about Lewis Anderson. He probably got this impression because our lives for the past 44 years have been closely intertwined both socially and professionally. A great deal about me will, of necessity, surface in the present article about him. After all, during these years we have collaborated on 23 papers, 10 fascicles of *exsiccati* and the two volumes of *Mosses of Eastern North America*. The latter work began in 1959 and continued more or less continuously until it was published in 1981. We have been guests in each others homes countless times; we have watched our respective children mature and drift away; we have spent endless hours together in the field and even more hours working side by side in the herbarium, passing slides back and forth; we have had countless extended telephone conversations; and, as noted above, we have carried on a prolific correspondence over the years. We have exchanged philosophies and concepts and we have learned a great deal from each other. We share the same kind of humorous outlook on life and we have long been able to overlook each other’s shortcomings and imperfections. We probably understand each other as well as two friends and colleagues can. Furthermore, we both genuinely enjoy our work and we have had fun in our careers and probably wouldn’t do anything much different if we had a chance to relive our lives.

Our first meeting was in 1948 at the University of Michigan, where Howard was



FIG. 1. Howard Crum at age 7 (left) and about ten (right).

a graduate student working with Bill Steere. Howard was among a group of students and myself who were invited by Bill and Dorothy for one of their famous evenings at home. As always at the Steere home, it was a fun evening, with Dorothy plying her guests with food and drink, and Bill cleverly maneuvering the conversation in and out of a delightful mix of light and humorous anecdotes and serious bryology. Students learned without knowing it. Bill had already told me that Howard Crum was by far the best student that had come his way. He cautioned me that Howard was shy and quiet but that underneath there was a deep and penetrating intellect. Steere was right. I hardly knew that Howard was there that night. He scarcely said anything the entire evening; he listened and learned. Later, he told me that he was in awe of Steere and me.

How our close friendship and working relationship has survived these many years is a puzzle to most of our friends and acquaintances. I am not sure that even we understand it. We criticize each other's opinions, ideas, concepts, and even personalities, openly, loudly, and with brutal frankness. We often disagree and our arguments range from playful to vehement. Rarely do either of us win. Those within earshot of our snipes at each other are often astounded, fearful that we are about to end a friendship. We both enjoy telling embarrassing stories about each other. Our colleagues are amazed that our collaboration has endured for so long and that it has been so productive. I think our friendship and collaboration is sustained mainly because we share a mischievous, derisive sort of humor. We work together well because we are comfortable with each other. We say outrageous things about and to each other without malice. I can't recall that we have ever been really mad at each other, although Howard hides his feelings much more than I do.

Howard is easily bored. When we work together, he will often say, "Anderson, you bore me," then tidily put away his tools and depart or demand that we work on something more interesting. Another of his favorite expressions is, "Anderson, I understand you a lot better after I've had a couple of beers." After a time, in a conversation group, he has been known to say, "You people bore me," and promptly leave. Such frankness can be puzzling to some, but however true the

expressions of boredom may be, they are always uttered in jest and reflect partly his puckishness. Mostly, however, his real need is to get away from people. It was a side of Howard that Bill Steere could never understand. When they were working together at Stanford, for example, Howard's need for privacy would on occasion drive him to absent himself without telling Steere or anyone else where he was going or when he was coming back. He would just disappear. Howard might take the bus to Monterey, to the Big Sur, to Muir Woods, to Sonoma Valley or elsewhere and explore the wineries, or to any place that he could be alone.

Wilf Schofield spent the summer of 1957 collecting with Howard in the Canadian Rockies and the Yukon and encountered the boredom trait in Howard. In Wilf's own words: "Peggy [Wilf's wife] joined us in the Yukon for a month. We tented at Mile 1022 on the Alaskan Highway and did most of our collecting there. Peggy would go fishing near a culvert and bring back our meals while Howard and I explored another collecting area. I recall an incident when Howard told us 'You folks bore me; I'm going to go away for a few days.' Since Peggy and I were newly married, I'm sure Howard wanted to give us some time by ourselves, but I suspect that to a degree, we *did* bore him! He returned refreshed, bearing, among other things, fresh *Splachnum luteum*, which I had not seen before".

Students and colleagues who have never met Howard often ask me, "What is Crum like?" Even those who are acquainted with him will sometimes ask me, "What is Crum *really* like?" I only know one Crum: highly intelligent, charming, gracious, courteous, kind, polite, tasteful, cultured, sensitive, and possessed of a tremendously individualized sense of humor. As I have already noted, he is a listener, not a talker. I have never known him to interrupt or break into a conversation and he scarcely ever raises his voice. He is articulate, but soft-spoken with a slight drawl, enough on occasions to be mistaken for a Southerner, which he does not consider flattering. He is not very effective in an oral argument; when pushed into a corner, he simply clams up and grins at you, which takes all the fun out of the dispute.

Howard's listening qualities make him a very effective student advisor. The University of Michigan soon discovered this gift and tapped him for the onerous task of freshman-sophomore counseling. For years he has spent an afternoon or more each week in these counseling sessions. I have learned not to telephone him when he is in an advising session because then he is strictly unavailable to anyone. Those students admire and appreciate him because he is genuinely interested in their lives and problems and he gives them a sympathetic ear. Besides, Howard has an ingrained curiosity. In 1978, he was honored with the prestigious Ruth M. Sinclair Memorial Award for Freshman-Sophomore Counseling, a tribute to his effectiveness.

Along these lines, Jerry Snider reminded me of a story that Irene, Howard's wife, tells about one of Howard's many hospital stays in which he shared a room with an interesting but uneducated man. Howard was very nice to the man, prying with his usual curiosity into every facet of his life. The man was appreciative of Howard's interest and they got to know each other well. The man left the hospital before Howard and, some weeks later, Irene met him on the street. He asked Irene about Howard's health. She replied that he was in the field (meaning with his class on a field trip). The man, looking very downcast, said, "Oh, too bad; oh, how sad," having interpreted Irene's comment to mean that Howard had died and was now in "Potter's Field."

Next to coffee, beer is Howard's favorite drink, although, during his excursions



FIG. 2. Howard Crum in uniform during WWII. He served in the Middle East in an intelligence unit in the United States Army Air Force, 1942–1945.

in the southern states, he developed a mild fondness for sour mash bourbon. In the South the tiny, almost microscopic larvae of the chigger or "red bug," are very prevalent in summer. They attach themselves to animal hosts that brush against plants on which the larvae lie in wait. Plant collectors are especially vulnerable as they walk through graminoids and brush, generally at a slow and deliberate pace. The tiny larvae are transferred to shoes and clothing from which they crawl and attach themselves to skin surfaces, causing intense itching and pink or red spots. Humans vary, apparently, in their susceptibility to these pests, and they seem to

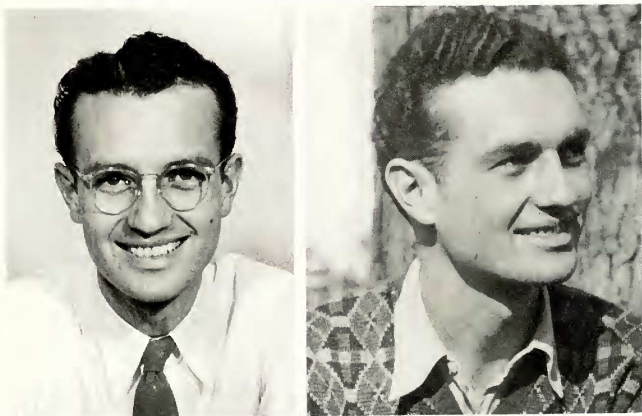


FIG. 3. Howard Crum during undergraduate days at Western Michigan Teachers College (now Western Michigan University).

have a particular affection for Howard. Reasonably effective preventive chemical applications are available but he never seemed to learn how to apply them. On one of our collecting trips to Florida he accumulated a particularly heavy infestation, claiming that he had counted more than 100 of them on his body, some of which he claimed were inhabiting rather embarrassing places. When a motel clerk asked us what we intended to do that evening, Howard replied that he didn't know what Andy was going to do but he intended to retire to his motel room, drink bourbon, and scratch his bites. I quickly explained to the clerk the kind of bites he was speaking about before we were tossed out of the place.

Howard's puckish humor inevitably surfaces at appropriate and often unexpected times and generally cuts right at the heart of the situation. An example is a story that Jack Sharp tells with great relish. Jack, Howard, and the late Bill Fox were collecting in Mexico in 1951. One of their stops was at the Rancho del Cielo, Tamaulipas (Frank Harrison's home), high on the Eastern Escarpment above Antiguo Morelos. They had rented horses and a guide from an Indian village across the river and started toward Rancho del Cielo late in the afternoon (too late for the distance they had to travel, according to Howard's version). It turned out that there were not enough horses for all of them and their luggage and collecting gear. Howard, being the youngest, volunteered to walk. The weather was warm and humid, and the trail was very steep and rocky. As they ascended the high ridge, the trail became rougher and, as darkness approached, one of Howard's legs began to give him trouble. Finally, after several stops because of Howard's leg, Sharp, because he was accustomed to such trails in the Smoky Mountains, suggested that they trade places, which they did. It soon began to rain and as they gained altitude, fog settled in and visibility became zero. Sharp stayed on the trail by holding on to the horse's tail. It continued raining, the fog became even denser, and the guide,

obviously having difficulty keeping on the trail, called a halt to the procession while he did some scouting. After what seemed to be a long period of silence, out of the black dismal night came Howard's voice, loud and angry, "What am I doing here? I hate botany!"

On our field excursions I always drove the vehicle, even if it was Crum's. He will admit under duress, or perhaps several beers, that his driving is somewhat erratic. Those who have ridden with him would call that an understatement. After riding with him in a van at the University of Michigan Biological Station for the duration of his bryology course one summer, the class gave him a Saint Christopher Medal! One summer he wrecked a National Museum of Canada van by crashing into the rear of a car on a straight, level, prairie road. I was never able to wring the particulars out of him. All he would ever say was that he was not picking his nose at the time of the accident. I never would have even learned about the accident but for the fact that he was on his way to Winnipeg, where he planned to leave the van, take the train to Fort Churchill and join Wilf Schofield and me (later, Bill Steere joined us for a while). At the end of our stay in Fort Churchill, he and I rode the train back to Winnipeg to pick up the van and drive to Ottawa. He gave some lame excuse that mechanical trouble had forced him to leave the van east of Winnipeg and that we would have to take a bus to this small town. Of course, there, I learned that in the interim, a garage had made the necessary repairs. In his account of this trip (Crum 1985), these details are omitted.

Howard has had at least two other narrow escapes in automobile accidents (there may have been others that I don't know about), but I hasten to add that he was not driving in either of these. Remarkably, both accidents occurred in Tennessee in different years and both happened when he was returning from collecting trips to Mexico.

In 1949, he joined Bob Wilbur, a fellow graduate student at Michigan, in a joint collecting trip to Mexico. They were accompanied by Bob's brother, who was an engineering student with little direct interest in botany. His and Howard's religious philosophies differed widely, and, according to Bob, they argued almost incessantly throughout the trip. On the return trip, during a particularly high-pitched moment in their argument, with the brother driving, the car ran off the road and crashed into a side ditch. Bob blamed them both equally for the accident.

Returning from Mexico with Jack Sharp and the late Bill Fox in 1951 (the same trip referred to above), nearing Chattanooga, with Fox driving, Sharp sitting beside him and Howard in the rear seat, Fox attempted to pass to the right of a stopped milk truck. The right tires left the pavement and the van flipped over on its side. As soon as he saw that he and Fox were uninjured, Jack looked back and was alarmed that he didn't see Howard. Presently, however, they were relieved to see him emerging from a complete cover of black beans in the corner of the van. Before leaving Mexico, they had bought ten kilos of dried black beans and had placed them on the shelf behind the back seat. The accident ruptured the bag and Howard, unharmed, was buried in the beans.

In 1953, Virginia Bryan, then a graduate student with me at Duke, and I spent most of the spring semester at Stanford University working with Bill Steere on chromosome investigations of California mosses. Bill had obtained one of the very first grants from the newly established National Science Foundation to support the chromosome project. Howard had gone to Stanford after receiving his Ph.D., in 1951, to work with Bill on, among other projects, a flora of Puerto Rico (Crum and Steere 1957), and to help with the identification of Alaskan and other speci-



FIG. 4. Howard Crum as a beginning bryologist, in the field (left, 1946) and at the microscope (right, 1947).

mens that Bill had accumulated over the years. Howard was in his last year there when we arrived. At that time Stanford was a very active place, bryologically. Wilf Schofield, Ed Ketchledge, and Grace Iverson were graduate students working with Bill. Gilbert M. Smith, whom Bill had succeeded, although retired, was still very active. He was revising the bryological chapters of his *Cryptogamic Botany* text and he and Howard had developed a particularly nice and mutually profitable friendship. Douglas Houghton Campbell, who was Smith's predecessor at Stanford, lived on the campus when Virginia and I arrived, but was not active; in fact, he died shortly afterwards. Thus, Campbell, Smith, and Steere, three giants of cryptogamic botany who had occupied successively the same professorial post at Stanford were together at Stanford for a period of time. Having been a member of the faculty there since Stanford opened in 1891, Campbell lived to be 95. In 1959, however, Steere resigned to become Director of the New York Botanical Garden and he was not replaced. The bryological tradition at Stanford, alas, abruptly came to an end.

Howard's three-year stay at Stanford was productive and enjoyable, but it was not without certain frustrations. He had gone to Stanford with high expectations of working closely with Steere and learning from the one-on-one relationship he envisaged. When they were together at Michigan, Steere was chairman of the department and laden with administrative responsibilities. Their contacts there were brief, intermittent, and unpredictable. Among Steere's reasons for leaving Michigan for the post at Stanford was a strong desire to escape the administrative burdens of chairmanship. He claimed that he had no time for research at Michigan, and Stanford promised that they would relieve him of all administrative responsibilities. But, little did they know the strong attraction that administration held for Bill Steere. In a letter to Oswald Tippo, though, Professor H. H. Bartlett, who knew Bill well, summed it up correctly: "[Steere] is a natural-born administrator who can no more keep away from it than he can from his research" (Crum 1977). At Stanford, Steere attracted administrative duties like iron filings to a magnet. It was not long after Howard arrived that Bill, through no fault of Stanford, became as busy, administratively, as he had been at Michigan. (Within a short time he became



FIG. 5. Howard Crum as a graduate student in botany at the University of Michigan, 1949.

Dean of the Graduate School!) As Howard put it, "[Steere] was too busy to help me interpret [species] or to join me in close collaboration" (Crum 1977).

At Stanford, Howard worked in what was called the "back room," which was Steere's laboratory, accessed more or less through Steere's office. The cytological lab, where Virginia Bryan and I worked, was in an adjacent building, but the four of us (and often others) gathered in the back room at mid-morning and mid-afternoon for coffee. These were about the only times that Howard could capture Steere long enough to discuss problems of identification and interpretation encountered in several investigations they were carrying out. One of these occasions produced a Steere expression that Howard and I treasure to this day. Howard had laid aside several sterile specimens that he was unable to identify and hoped that Steere could suggest names. Particularly challenging was a ditrichaceous-looking moss from Panama that had baffled Howard for some time. He reviewed a long list of characters that he had noted, after which Steere turned to him and in all seriousness asked, "But Howard, have you checked the rhizoids?" Of course, Howard had not checked the rhizoids, and there the matter rested! [The moss turned out to be *Garckea phascoides* (Hook.) C. Müll.] Since then, when either of us sends the other a specimen for verification or hopeful identification, the reply is often, "I don't believe you checked the rhizoids!" Thereafter, when Bill would overhear us use this expression, he would always appear puzzled, then give us his characteristic quizzical look, followed by "Oh, really?" Although Bill Steere had a vigorous sense of humor and could and did spiel off one joke after another, they were never jokes on himself. His shortcomings, blunders, and human frailties were not amusing to himself.

The Stanford experience was exhilarating and profitable for all of us. Moreover, it was fun. Howard, Virginia, the late Dick Holm and I spent many delightful evenings sampling the cuisine and splendid wines in the many fine restaurants in the

area. In a small group such as this, Howard is at his best, and it was at these gatherings that I got to know him well. I discovered that, unlike Bill Steere, he could laugh at himself and that, indiscriminately, he could combine fun and serious work. Moreover, we liked each other's company. Howard put it best: "Our friendship has been based on mutual interests, scientific and cultural, as well as mutual tolerance for personal foibles, his and mine. We have a similar way of viewing the world and each other, with puckish good humor" (Crum 1985). Thus, when the opportunity came to collaborate, scientifically, we felt that we could work together pleasantly and profitably by combining somewhat diverse talents and knowledge.

Howard spent the summer of 1953 in Alaska with Bill Steere, based at the Arctic Research Laboratory at Point Barrow. They collected together at Barrow and Cape Lisburne and Howard collected extensively at Meade River and the Anaktuvik Pass in the Brooks Range (Crum 1977). Actually, Bill did little collecting that summer. Using the techniques we had worked out at Stanford, he counted chromosomes from material brought in from the field by Howard. This was Howard's first field experience in the High Arctic and the time he had spent identifying Steere's Alaskan material at Stanford provided him with a background knowledge of the moss flora there that greatly enhanced his collecting effectiveness. He also learned to recognize capsules in the proper meiotic stages for chromosome study. Over the years he has sent me much living material for cytological study and, together, we published a long paper on the chromosomes of a large number of mosses of the Canadian Rocky Mountains, based entirely on collections of his that were shipped to me at Duke.

Howard's post-doctoral with Steere ended in 1953 and, after much job-hunting, he accepted a position in the Department of Biology of the University of Louisville. He stayed only one year, however. A position opened at the National Museum of Canada when I. Mackenzie Lamb accepted the directorship of the Farlow Library and Herbarium at Harvard University. Howard applied for the position vacated by Lamb and was appointed Curator of Cryptogams, beginning in the fall of 1954.

In the meantime, I was able to obtain meager funds to support Howard at Duke for the summer of 1954. He helped with the determinations of mosses that I had collected on a previous summer's excursion to the Ozark Mountains. He was grateful for the financial support, but when his first check arrived he was stunned to discover that he was being paid out of a petty cash fund. To this day he reminds me of this humbling experience. Rudy Schuster was in residence at Duke then and it was a memorable summer. Rudy occupied two small rooms adjoining the then small herbarium. Olga, Rudy's wife, did much of his typing directly across the hall from his work room. I know of no couple more devoted and respectful of each other than Olga and Rudy. Their loud, reciprocal arguments, replete with mutual denunciations, strong profanity and vilifications when working together, however, are notorious. The exchanges are totally harmless, but this was Howard's first experience with the Schusters and, on occasion, he would get so nervous he would have to leave and take a walk.

Generally, we used Grout's flora in our determinations and its deficiencies became even more apparent as we worked through the Ozarkian specimens. We soon came to the conclusion that it needed to be revised. The long discussions and experiences we had that summer led eventually to *Mosses of Eastern North America*. First, we decided simply to revise and tidy up Grout's work, a project that we estimated would take no more than three years. Very quickly, we abandoned the idea of a revision of the Grout treatment and decided on an original flora scaled



FIG. 6. A rainy day on Mont Tremblant, Quebec, during the Pre-congress foray, IX International Botanical Congress, August, 1959. Howard organized and led the foray. Harry Williams, Howard Crum, Seville Flowers, Fred Hermann (left to right).

down to include only eastern North America. We realized that such a flora would take more time, but even so, we couldn't have realized that we were beginning a 27-year project.

During that eventful summer of 1954, I discovered many of the talents and skills that contribute to Howard's scientific and scholarly proficiency. I found that he has a broad liberal background in arts and sciences, especially in classics and languages, which is quite unusual for someone trained in the sciences. His tremendous command of the English language is reflected in all his writings. A natural editor, he cannot refrain from tinkering with careless and slovenly writing. He attacks manuscripts with a sort of vengeful glee. When he spots an ungrammatical lapse his lips curl into a determined but pleasing grin. Thus, when Bill Steere called me in July to report his appointment as Dean of the Graduate School at Stanford and to tell me that he could not possibly edit *The Bryologist* any longer, he and I agreed that Howard would make a good editor. When I broached this to Howard, he was dumbfounded. Out of graduate school only three years, he was stunned at the prospect of editing a professional journal at this early stage in his career. I reminded him that all the while he was at Stanford he had more than assisted Steere in editing *The Bryologist*; he had handled a lot of it on his own. At the time, I was acting as Business Manager of the American Bryological Society and the journal was being published in Durham. With some prodding from Steere and after taking Howard to the publishing firm, where he met the printing staff and publisher and saw the production operation, he was persuaded to take the job. It was not difficult

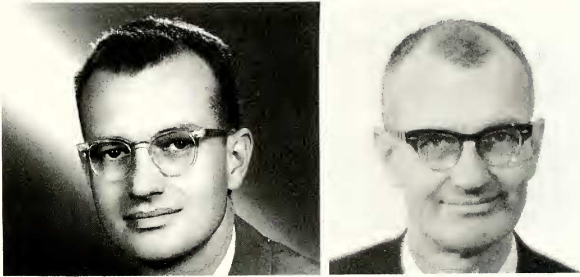


FIG. 7. The hair gets thinner. Howard Crum in 1952 (left) and 1970 (right).

to convince the executive committee of the Society to name him the new editor. He began immediately, editing Number 3 of Volume 57 (September, 1954), while he was in Durham that summer. He was able to work directly with individual members of the publishing firm and gained valuable experience that would help him in future editing. By chance, I was the author of the first paper in that number and I do not need to add that he tackled all its deficiencies with delight.

As Bill Steere and I expected, Howard became an excellent editor. He edited with a firmer pencil than Steere and may have ruffled the feathers of a few authors with his grammatical and stylistic tinkering, but the quality of papers improved during his editorship and *The Bryologist* became a better journal. Among other changes, Howard shifted the journal to a quarterly in 1962. Founded by Abel Joel Grout in 1898, it had begun as a department in the *Fern Bulletin*, which was a quarterly. In 1900, however, *The Bryologist* became an independent journal and, in 1902, it went to six numbers per year, where it remained until Howard's change. In the December, 1955, issue he introduced a valuable "News and Notes" section. Its chatty and informal style has continued through a number of editors to the present. He kept the editorship for two terms or a total of eight years and was succeeded by William Louis Culberson in 1962.

During the summer of 1954, Howard became a fixture in the Anderson household. He was 32 and unmarried. Although he lived in a dormitory room on the Duke campus he spent much time in our home. There were five children, three girls and two boys, seven to twelve years old, including a pair of twins. It was a busy, noisy place, and Howard was fascinated, especially with the girls, seven, eight and eleven. One evening when he was having dinner with us a girlfriend of our oldest boy, Philip, was also a guest. She and Philip were 12. There was a bouquet of snapdragons on the table. Our little guest was sitting next to Howard and at some point asked Howard a question about the snapdragon flower. Always the ready educator, he began explaining the structure of the snapdragon flower to her at a technical level that was beyond anything the poor girl could comprehend. Also, it soon became clear that she knew very little about the sexual life of the flower or for that matter, animals or humans. As her questions became more pointed and precise, Howard found himself in the awkward position of having to explain sex to this innocent child. He made a number of clumsy and embarrassing starts, but he was totally unprepared for the challenge that soon unfolded. He looked to all of us in

despair, expecting help that never came. He never forgave us for the silence and for giving him no help whatsoever. Finally, my wife, Pat, came to the rescue by telling the girl that the flower produced seed, which, when planted, produced another plant. That satisfied the youngster and Howard was finally off the hook.

After he was married and had children of his own such conversations with them would become more natural. Howard told me rather recently of an incident that occurred when his children, Roger and Mary, were in their pre-teens. Roger's elementary school teacher (and presumably others) had given a sex education lecture to his class and some of the parents were apprehensive about its content. The parents were invited to come to the school one evening and listen to the lecture as it was given to the students. Roger's parents attended. When they returned, Roger asked his father how he liked the lecture. Howard replied, "Well, it was very instructive and educational, but they didn't tell you how much fun it is!" This episode illustrates the kind of open and frank relationship he always kept with his children, even when they were very young. He always treated them as adults.

In early September, 1954, we went to the Gainesville, Florida, AIBS meeting with Heinie Oosting and Terry Johnson. [Howard, in his account of this trip (1985), incorrectly included Bill Culberson in the group.] Terry and Howard were graduate students together at the University of Michigan and knew each other quite well. Howard, in his account, refers to "... night disturbances resulting from sophomore humor," without further elaboration except that "The situation would not have arisen except for Heinie's cautious use of the dollar, which resulted in our sleeping five [actually four] to a room." Terry and Howard shared one bed and Heinie and I the other. Howard is a light sleeper. After retiring, he would stay awake for a long time, get out of bed often, and walk around in the room until he felt sleepy. Terry went to bed early, slept soundly, and arose at an unearthly hour, such as four A.M., wide awake and ready to go! As Heinie complained, by the time Howard quit getting up and bumping around in the room, Terry was up, shaving and showering. On one particularly bad night, Howard, still wide awake at midnight or one A.M., gave the sleeping Terry several stiff jabs with his elbows. Terry sat upright, inquiring, "What's wrong, Howard?" Howard said, "Terry, I've just wet the bed." Terry jumped out of the bed, knocking over a table and lamp and waking Oosting and me. Of course, Howard had not wet the bed, but there was little sleep for any of us thereafter. Sophomoric humor?

Almost immediately after arriving at the National Museum Howard made plans for Canadian field work, which the Museum encouraged. He spent succeeding summers collecting in the Gaspé and Laurentian Mountains, the Bruce Peninsula and Niagara Escarpment, the Canadian Rocky Mountains, the Yukon, and northern Manitoba.

In 1957, he and I made a firm commitment to work on the moss flora of eastern North America. We applied for and received a grant from the National Science Foundation and very shortly signed a contract with Columbia University Press to publish the work. I spent most of the winter and spring of 1959 in Ottawa. We worked together, side by side, each with microscopes, passing slides back and forth and trading jibes and information. This was the real beginning of the flora.

Howard had just bought and moved into a new house when I arrived and I occupied one of the bedrooms during my stay, which extended into the spring. It was during this stay that Howard claims I gave him stomach ulcers, which ultimately necessitated rather drastic surgery. This was followed by a siege with his gall bladder, which I maintained was brought on by his greasy cooking. Actually he was a

good cook and produced some real culinary treats. But, unfortunately, he was fond of fatty foods, including something the English call fried bread, which consists of soaking and frying slices of bread in left-over bacon grease. I found the result utterly loathsome, and rejected it on sight.

The brightest parts of our working days at the National Museum came when Irene McCarthy stopped in and visited with us. She was Administrative Secretary in the Department of Botany and we looked forward to her visits. Attractive, vivacious, cheerful, spirited, extraordinarily intelligent (much smarter in a non-academic way than Howard), incredibly organized, the neatest and tidiest person I have ever known, she managed the affairs of that department with stern, unyielding efficiency, and with a tremendous sense of humor. She was not intimidated in the slightest by a scientific staff of all-male *prima donnas*, including the chairman, A. E. Porsild, a noted authority on arctic plants. She radiated brightness and cheerfulness in the otherwise gloomy atmosphere of the then old and stuffy museum building with its high, multistoried lobby overcrowded with tall, dusty totem poles.

I soon noticed that she and Howard were quite friendly. They enjoyed sharing gossip; they joked and kidded each other; they had formed an alliance against staff members they disliked; they obviously liked each other. He called her McCarthy then, never Irene. Of course, I joined the good-natured bantering, which provided intermittent relief from the daily tedium of looking at herbarium specimens, supervising a recalcitrant but gifted artist, and constant decision-making.

At first I thought something might be developing between them, but soon dismissed it because I knew they were not seeing each other except in the herbarium. That was certainly no place to carry on a romance. Howard did ask me once if I thought McCarthy would make a good wife. My answer was a stream of praise for her and an enumeration of all the splendid qualities that I had observed during our brief acquaintance. I reminded him, however, that she was too smart to marry him, a deep-rooted, fastidious bachelor, whose habits and mores were indelibly fixed. As it turned out I was quite wrong.

They were married on December 26, 1960, after what has to be one of the strangest courtships on record. She recently filled me in on the particulars, and they are worth recording. At the time, the fall of 1960, the Canadian government was in the midst of a campaign to encourage its employees to become bilingual and were providing free language courses for them. On this particular day Irene and Howard were discussing the possibilities of enrolling. Irene had already decided that she didn't want to register for a French course, which was the principal language being pushed. Rather, she told him, she wanted to be different and intended to register for a biology course, which might help her in her work. Howard replied, without any hesitation or change in inflection, "Well, if you want to be different, then why don't you marry me?" At first she thought he was joking, but he was serious. Moreover, he wanted to get married that weekend! She would have none of that, so they were married the day after Christmas, with all of the appropriate rituals of a traditional wedding.

Irene tells me that when Howard first joined the museum staff she thought he was pretty cute. Presently, she began to make a conscious effort to attract his attentions toward her. As time went on, however, she saw no results of this encouragement and after a couple of years decided that it was a hopeless cause. Although they established a pleasant relationship at the Museum, it never went beyond that. He never dated her once; he didn't take her anywhere, not even to a movie; they never had lunch or dinner together; they never even took a walk together. It is,



FIG. 8. Irene and Howard Crum, married and intent on starting a family.

therefore, no wonder that she had given up. When the off-handed proposal finally came she was stunned and she could scarcely wait to tell her mother. After dashing into the house and loudly exclaiming that she was getting married, her mother, having forgotten about Howard, replied, "To whom, for goodness sake?"

I was right about one thing, though. Irene turned out to be the kind of wife that I envisioned and much more. She is the only woman that I can think of that could have sustained a happy marriage with Howard. They have a fantastic marriage and a mutually satisfying home life. Pat and I have been guests on numerous occasions over the years and have watched their children mature. Irene is a wonderful cook. Her specialties are desserts, and she and I share a love for them. We also share a struggle with our respective weight levels. Irene is an impeccable housekeeper. She is even more fastidious than Howard. Her house is as clean as an operating room in a hospital. She has looked after him, I am sure, as well as his mother did. He has survived an unbelievable number of life-threatening illnesses principally because of her aggressive vigilance.

The two Crum children, Roger and Mary, are highly talented. I don't know of any parents who have enjoyed and relished their children more than Howard and Irene. The children have responded in kind. Roger, now married to Robin, received his Ph.D. in art history from the University of Pittsburgh in 1991, and is now Assistant Professor at the University of Dayton. Mary, a music major with a degree



FIG. 9. Irene and Howard Crum learning to deal with toddlers Mary and Roger (above); and on Mackinac Island, summer, 1974, Mary, Irene, Linda (Mrs. Jerry) Snider, Roger, Howard (left to right).

from the University of Michigan, teaches music in the public schools (she is an accomplished clarinetist, and plays beautifully) and is married to Brian Scholtens, who, in 1991, received his Ph.D. in zoology from the University of Michigan, where he now holds a teaching position.

A quote from a recent letter from Roger provides a much better insight into family life than I could possibly write.

"One thing that I've always enjoyed telling people is that, while my father is a botanist, there have never been any plants in our home. You can well imagine why this is so, given that my mother is definitely in charge. Since she grew up on a farm,



FIG. 10. A beautiful bride: Howard, Mary Crum Scholtens, Irene.

dirt of any nature in the house represents something with which to wage constant battle.

"There was never any bryological shop talk at our home, even though hours upon hours of bryological research and writing occurred on my father's lap in the living room. My father could work while any sort of noise, playing or watching of television, was going on. He could work through it all without being disturbed in the least. It seems to me that my father has always worked best at home, in his living room chair (and at times with the two of us in the chair with him), with a manuscript set on a kitchen cutting board on his lap. In fact, as you well know, since Dad has been seriously ill so many times, a good deal of his work has by necessity been carried out at home.

"Finally, bryology has been Dad's thing and Dad's thing alone. He has never spoken of his academic stature or success, and it was years before I understood the importance of his contributions to the field. He showed by his example the joys of an academic life style but he never urged Mary or me to become interested in science or botany in particular. His major interest was that we pursue that which interested us most. As things have turned out, this has been music for Mary and art history for me."

Howard Alvin Crum was born on July 14, 1922, at Mishawaka, Indiana. His mother, Eunice Eva Crum, died in 1949, at age 51; his father, Earl Earnest Crum, called Jack by his friends, died in 1964, at age 73. The father worked as a riveter for the Studebaker automobile factory in South Bend, Indiana, during the 1920's and into the early years of the Great Depression. They had four children, Chester, Roger, Howard and Roland. Howard grew up in Mishawaka, except for one year in which his father moved the family to Howard's grandfather's farm in Burr Oak, Indiana. That one year on the farm made a deep impression on Howard. For years,



FIG. 11. Roger Crum's wedding. Above, Howard, Irene, Roger, Mary. Below, Howard, Irene Roger, Robin, Mary and Brian Scholtens.



FIG. 12. Irene and Howard Crum after Roger's wedding (left) and a happy Howard (right).

I thought he grew up on a farm, because he spoke so much about farm life. After that year the family moved back to Mishawaka.

Howard had a special affection for his mother and speaks of her often. He can get misty-eyed while discussing her. I remember an incident when Pat and I were visiting the Crums in Ann Arbor. I went to the kitchen to mix my five o'clock drink only to find that the ice cubes had frozen into a solid bar of ice. Reaching into the nearest drawer, I pulled out an old, nondescript wooden spoon and proceeded to whack away at the ice to try to break it apart. The spoon shattered into splinters just as Howard walked in. Instead of playing the perfect host and reassuring me that it was nothing, just an old wooden spoon, he gave me a despairing look, and in the saddest voice, said, "It belonged to my mother; you clod, you've destroyed it." There was sadness, of course, over the loss of the sentimental spoon, but mostly he wanted to embarrass me. I reminded him of the time that he was admiring a particularly beautiful and expensive mahogany salad bowl at a dean's house when it inexplicably fractured in his hands.

After attending Kennedy School for grades one through eight, Howard went to Mishawaka High School, graduating in 1939. His two older brothers, Chester and Roger, as well as an aunt, had all attended Western Michigan Teachers College (now Western Michigan University) at Kalamazoo, so Howard followed them there, entering in the fall of 1939. He became a German major, but his university education was interrupted by World War II. He is very proud of the fact that he did not wait to be drafted. He volunteered for the United States Army Air Force in 1942, and served in the Intelligence Division, where he became an expert cryptographer, with duty in North Africa and the Middle East.

As his son Roger has reminded me, Howard, in a very quiet, apolitical way, is a very patriotic person. I have seen him become maudlin upon viewing the American

flag. The flag means more to him than it does to most Americans. He can get genuinely sentimental about the origins and preservation of the ideals of his country. This may surprise people who do not know him well.

Howard returned from military service in late 1945, and spent some time with his mother, who was in ill health in Mishawaka. Like many returning veterans, he began to have some uncertainties about his academic directions. In the spring of 1946, he visited the University of Chicago and interviewed for medical school there. Based on his superb record to that point, they accepted him. He never had any real interest in medicine, however, and eventually decided against it. This was a lucky break for bryology.

Finally, he decided to resume his studies at Western Michigan University, but enrolled at the University of Michigan Biological Station, at Douglas Lake, for the summer session as a student disjunct from Western. He registered for Anatomy, taught by C. D. LaRue, and Systematic Botany, taught by none other than Bill Steere. He claims that "the excitement of being there, in a research environment with the best of students and the best of teachers, predestined me to a career in botany" (Crum 1977). When he returned to Western Michigan it is not surprising that he changed his major from German to botany. Somewhat defensively, he brags that he had always had a real love for plants. He speaks proudly of the fact that both his parents knew the common names for most of the plants in their neighborhood and that his mother was a good gardener.

Contrary to what one might think, Bill Steere did not introduce Howard to bryophytes when he took his systematics course in the summer of 1946. He discovered them the following winter when he returned to Western Michigan. Bill Buck, who knows everything about everybody, told me that Howard's interest in mosses developed as follows. Howard and another botany major, a girl, by the way, that fall began a routine of walking in the woods in order to strengthen their knowledge of plants. With the onset of winter, the tree leaves and flowers disappeared. The only green remaining were mosses and liverworts. They began collecting them and made attempts to identify them, probably with the aid of *Mosses with a Handlens*. They may have had some help from Professor Leslie A. Kenoyer, who was the principal botanist there, but it would have been minimal. There is no indication that he knew much about bryophytes. At some point Howard did accompany Kenoyer on a short trip to Mexico. The professor was a generalist with very broad interests, including systematics, floristics, ecology, morphology, anatomy, and pollination biology. He undoubtedly provided some encouragement for Howard's leanings toward botany, but his interest in mosses was evidently self-induced. Howard became an instructor his senior year at Western Michigan and received the B.S. degree, magna cum laude, in 1947.

Meanwhile, he was awarded a prestigious Rackam State College Scholarship at the University of Michigan, to begin in the fall of 1947. Curiously, in his application for the scholarship he indicated that he wished to major in plant pathology. After graduation, however, Howard decided to spend the summer at the Biological Station, where he enrolled in Margaret Fulford's course in bryophytes. This was the first time she offered it at the Station. Concurrently with her bryology course, he took Professor Gerald Prescott's course in aquatic flowering plants, for which he originally received a grade of A+. Later, however, Prescott changed it to A-. For Howard, this was an unforgiving act, and he complains to this day about it.

When Howard arrived in Ann Arbor he discovered that the University of Michigan did not offer a program, not even a course, in plant pathology. He says

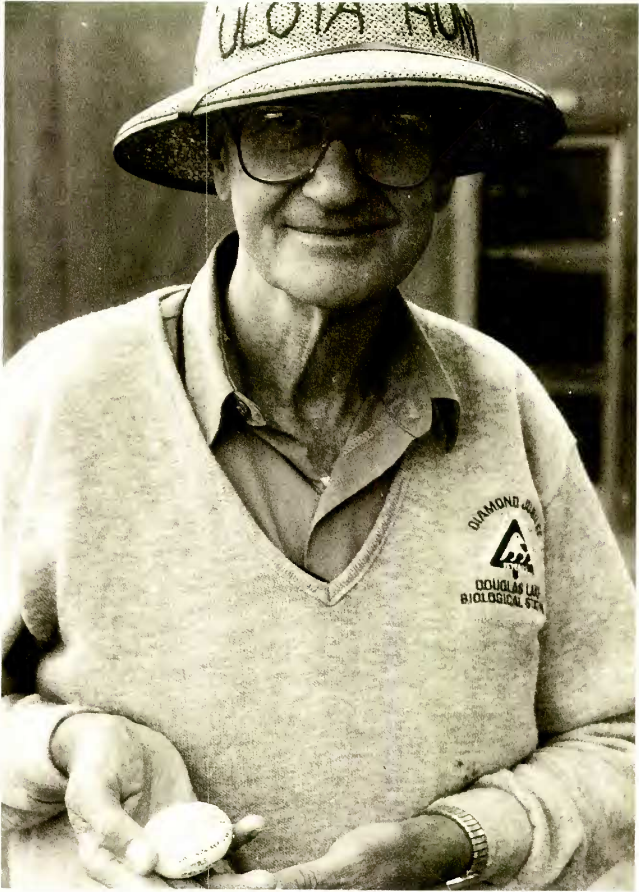


FIG. 13. Howard, the *Ulova* Hunter, University of Michigan Biological Station, summer, 1985. The hat was a birthday present from his class that year; the raw egg was received in the "mail."

eventually he "blundered into Steere," which was an "accident of fate." Of course, he would have known Steere from the previous summer's course in taxonomy at the Biological Station, so it probably didn't involve too much "blundering." In any event, he soon became interested almost exclusively in mosses and began his graduate work as Bill Steere's student.

He entered Michigan toward the end of a great period in bryology there under Steere's leadership. Steere attracted a host of students immediately before and after World War II. Howard was certainly the star of the group. Almost immediately he became interested in the moss flora of Mexico. Altogether, he made four collecting trips to Mexico and collected a large number of mosses. The experiences he gained on these trips expanded greatly his knowledge of tropical mosses and their ecology. He also visited the major herbaria of this country and compiled a wealth of distributional information. Jack Sharp tells with great delight that Howard came to the University of Tennessee to spend a week identifying Jack's collection. He was there almost a month, staying at the Sharps, whose home is called the "Sharp Motel" by bryologists. Howard had not known that Jack's unidentified material filled several large barrels. It was Howard who introduced the term "dung ball" to describe Jack's habit of collecting several handfuls of mosses, squeezing them all together and stuffing them, often in wet condition, into a paper bag or wrap them, unpressed, in folded newspapers.

Howard's thesis, "The Appalachian-Ozarkian Element in the Moss Flora of Mexico with a Check-list of All Known Mexican Mosses," was finished under Professor Harley H. Bartlett's ("Uncle Harley" as he was fondly known) direction because of Steere's departure for Stanford. Unfortunately, Howard's thesis was never published. It is undoubtedly the most-cited thesis in the history of bryology. A great deal of its substance was eventually lifted and included in one of Howard's more significant contributions, "The Geographic Origins of the Mosses of North America's Eastern Deciduous Forest," published in 1972, as a part of a symposium in Tokyo, which was held the previous year.

Howard's eleven years in Ottawa were very pleasant ones. He and Irene both loved the city, they had a nice home, albeit a bit small for an expanding family. She was a Canadian and "at home." While the National Museum was in antiquated quarters, there was generous financial support for technicians, equipment, and field work, and he lectured occasionally at Carleton University. He left an imprint on the National Museum that is well described in a letter from Wilf Schofield: "He built the bryological collection of the National Herbarium of Canada to world-class stature through active collecting and exchange. His organization of the collection and his great enrichment of the library are of profound significance to bryology."

Meanwhile, the bryology program at the University of Michigan became dormant after Steere's departure. In 1964, however, Rudolph M. Schuster was hired to revive the program, but, after a tumultuous year in Ann Arbor, Rudy departed for the University of Massachusetts. Howard was then offered the job. He couldn't resist the lure of his alma mater and accepted the offer of Associate Professor of Botany, beginning in the fall of 1965. He and Irene purchased a beautiful home in a very nice section of Ann Arbor where they still reside. Their years in Ann Arbor have undoubtedly been their happiest and most cherished. There the children grew up, married, and fledged. He became Curator and Professor in 1969 and served as Chairman of the Department of Botany from 1981-83, interrupted by a serious illness.

When he arrived in Ann Arbor, Howard quickly revived the graduate program

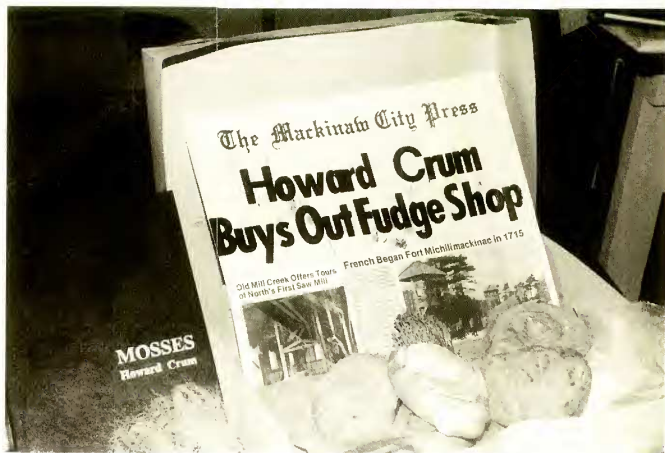


FIG. 14. Howard makes the front page news in Mackinaw City, summer, 1985.

in bryology and promptly set about revamping the quiescent bryophyte herbarium. Howard has supervised six Ph.D. students: Dale H. Vitt, 1970, now Professor of Botany at the University of Alberta, and currently President of the American Bryological and Lichenological Society and the International Association of Bryologists; William R. Buck, 1979, now Curator of Bryophytes at the New York Botanical Garden; Jeffrey W. Holcombe, 1980, now teaching in a private school in New England; Allan J. Fife, 1982, now on the staff of the Botany Division, Department of Scientific and Industrial Research, Christchurch, New Zealand; Jonathan Shaw, 1983, now Associate Professor of Biology at Ithaca College; and Joseph R. Rohrer, 1985, now Associate Professor of Biology at the University of Wisconsin-Eau Claire. Marie Cole was his only Masters student.

Howard's relations with his students were what they all describe as "hands-off." Following are some excerpts from a letter from Dale Vitt: "Howard always had time to talk, whether it was about bryology or just plain gossiping. From him I learned that there is only one way to be a good bryological taxonomist and that is to look at specimens. The more specimens one examines the better one will understand the species at hand. Surely no one else in the world has been able to name as many specimens from throughout the world as Howard. I rarely saw a specimen from really anywhere that he couldn't determine to genus and often a good guess to species."

Dale goes on to say: "I think Howard has been a remarkably efficient editor over the years (often without getting the credit that he deserved, e.g., the *Flowers* book). His thesis is surely one of the better ones to have been written at its time; it brought Mexican bryology into the 20th century. Although I don't agree with all his ideas, his 'Origins of Eastern North American mosses' paper is superbly written.

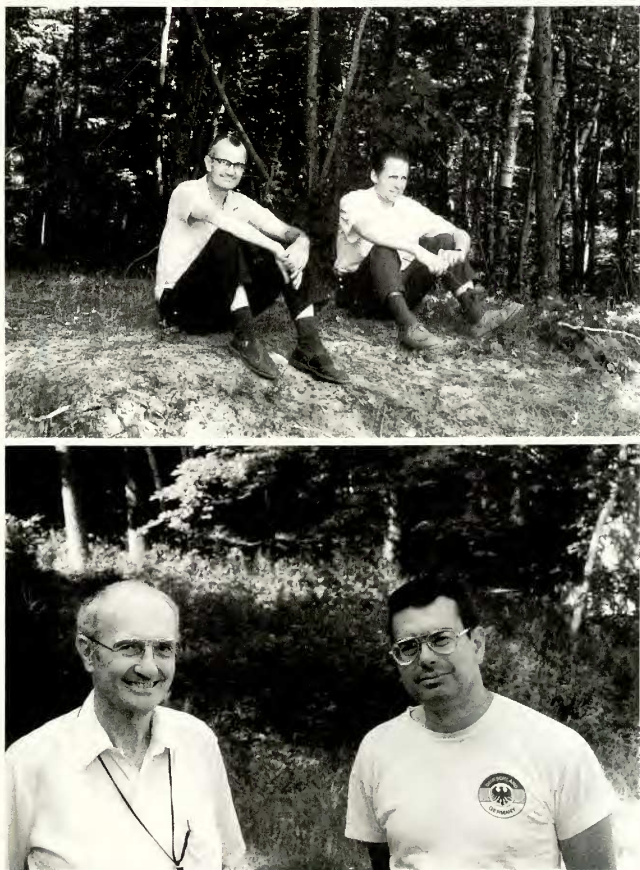


FIG. 15. Summer visitors at the Biological Station. Howard with Mason Hale in 1969 (above) and Dale Vitt in 1989 (below).

The Great Lakes Flora is a perfect flora down to the wonderful stories that it contains (including my favorite about Mungo Park). Of course your joint work couldn't be better!"

All his students emphasize his professionalism, which, with amazing success, he was able to pass along to them. Their published dissertations reflect this. He went



FIG. 16. Howard Crum with Bill Steere at the latter's 80th birthday celebration at the New York Botanical Garden, 4 November 1987.

through each thesis with a fine-toothed editorial comb. Individually, his relationship with his graduate students was mostly at the professional level, they tell me, but in a group he generally let his hair down and joined them in fun and clowning. Sometimes he surprised them with his "odd humor." Bill Buck tells of introducing his parents to Howard, who, after a studied look at them paused and remarked, to Bill's discomfort, "Well, you two look normal enough."

He was at his best at the Michigan Biological Station, where he still teaches every summer that health permits. Joe Rohrer describes his summer there as follows: "My fondest memories of Howard come from the summer of 1980, which I spent at Douglas Lake. I was to begin my doctoral work with him (at your sugges-

tion if you remember) that fall, and Howard strongly encouraged me to join him at the 'bug camp' for the summer so that I could get acquainted with him and the local bryophytes. He soon started calling me 'Jo Jo the Dog-faced Boy,' Howard has an odd sense of fun, but it also included poking fun at himself. For a class picture that summer, he allowed the students to adorn his shoulders with military-style macaroni of *Ptilium* and *Sphagnum*. The field trips that summer were great. We were in the field five or six days a week. Howard was famous for never neglecting to stop at a doughnut shop in the morning and often for ice cream in the afternoon. One student commemorated the experience in a song he titled the 'Bryophyte Blues.' One verse went:

Drive all day and we don't stop
Until we get to a donut shop,
Buy a dozen, or maybe two
And we hunt for mosses 'til the day is through."

In the summer of 1967, Howard invited Wolfgang Maass and me to the Biological Station for a month. Howard was teaching both bryology and lichenology with assistance from Norton Miller and Dick Harris. Dale Vitt was also there working on his dissertation. It was a great summer. I spent most of the time with cytological studies on mosses (still unpublished) and Maass and Howard spent a great amount of time collecting and arguing about *Sphagnum* concepts. We all had fun.

I had brought along a bottle of Howard's favorite bourbon and suggested that we file it away under the letter "B" for some wet and cold day. "No way," he said, and added that a year or so before a friend had brought him an expensive bottle of scotch and that they had filed it under "S" for that cold, rainy day. At an informal break in the bryology class Howard had told the students and others hanging around about some of Elizabeth G. Britton's interesting traits. She made a habit of swiping small samples of enticing specimens, including types, that she had borrowed, but she would always write across the original specimen in her large, familiar handwriting, "Took Piece." Soon, that cold rainy day arrived at the Station, and Howard went to the filing cabinet to retrieve the unopened bottle of scotch. To his amazement, it had been opened and was only three quarters full, but stuck to it was a slip of paper that, in a large handwritten scrawl, said "Took Piece." The "honest" culprit was never discovered.

The long tradition of bryology and lichenology at the Michigan Biological Station has been carried on most ably by Howard, and has to be listed as one of his major contributions to the field. He has made it a major training facility for bryology in this country. I encouraged all my students to go there and nearly all of them did so. Howard has invited colleagues and graduate students to use the Station as a base for their researches and in many instances he has obtained funds to support them.

Howard, at 69, is still teaching a rigorous field course at the Biological Station. Liary says "... he is particularly proud of a nickname he acquired from his bryology students two years ago when they complained that they could not keep up with him in the field. These twenty year olds dubbed this 67 year old 'Hurricane Howard' and they called themselves the 'brood bodies.' We all have the class T-shirts to prove it!" Because the Crum children returned to the Station summer after summer, essentially through their entire childhood, it became a second home to them. They became a part of his professional and social life and were acquainted



FIG. 17. Bryophyte Reunion of the Summer Society honoring Howard Crum at the Biological Station, August, 1989. Above, Howard at his favorite thing, lecturing in a peat bog, Mackinac County, Michigan; and below, reminiscing with his first two Ph.D. students, Bill Buck (left) and Dale Vitt (right).

with students and colleagues. Mary says that at lunch one day a student told her "I just love groveling at the base of trees with your Dad. We shouldn't be getting credit for having this much fun."

Howard was a member of Bill Anderson's doctoral committee at Michigan. Bill



FIG. 18. The Bryophyte Reunion continues, August, 1989. Bill Buck, Lewis Anderson, Howard Crum, Grace Blanchard Iverson and Norton Miller (left to right).

wrote me the following. "One day I went to Howard and told him I wanted to change the subject of my dissertation. My first thesis was not working out well so I was switching to a problem that was sure to result in a publishable monograph in a reasonable time. Howard said, 'That's all very well, but what's going to be your gimmick in this new thesis?' 'My what?' 'Your gimmick. You know, the bit you'll use to convince the non-taxonomists on your committee that you did some science. Every taxonomist needs a gimmick, at least until he gets tenure.' I have remembered Howard's advice, made good use of it in my own career, and passed it along to my students. I have also borne in mind that while Howard cultivates the image of a vague and dithering sweetheart, he is actually a foxy strategist whose survival among the piranhas at the University of Michigan was not entirely a matter of good fortune."

Howard's contribution to Sphagnology is enormous. Completely self-taught, he approached the genus from an ecological vantage point. He soon recognized that Andrews' ultraconservative approach was an overreaction to Warnstorff's excessively narrow species concepts and did not mesh with what Crum saw in the field. On the other hand, he is troubled by more recent tendencies to edge back toward Warnstorffian attitudes, although some might call this edging forward. Howard has attempted to strike a middle ground in his concepts, although some can see his species concepts narrowing as his interests move into South America. Whatever, his North American treatise with its accurate descriptions and magnificent illustrations is the most useful work on *Sphagnum* that has been produced anywhere this century. He has set a standard that will be difficult to exceed.

I agree with Wilf Schofield, Dale Vitt, and just about everyone who has a copy, that his Great Lakes moss flora is a gem. As Wilf wrote me, it is "... a delight to read and browse for intriguing observations derived from a rich background of reading and [experiences] with living plants." All that is lacking is a comprehensive index to this huge cache of fascinating information. It is the only flora that I know of

that can be read with pleasure. It has and will continue to pique the interest of many a student, professional, and non-professional.

A habitual note-taker, Howard carries a notebook with him wherever he goes. He and I have collected together over much of the southeastern United States. I drove, of course, and he took notes. I think he wrote down every thought I had on the trips. "I didn't quite get that. Would you mind repeating it?" he would say. My copy of Grout's moss flora is so marked up with Howard's pencilings that I can scarcely use it. If he has a Bible, and I am sure he has, I would not be surprised if it is filled with marginal notes. If I send him a specimen that is somewhat unusual and doesn't quite fit a particular species, it comes back to me with a full penciled description which he jotted down while examining it. Once he sent me a description like this based on a *Sphagnum* that someone had sent him from Florida and that he thought was a new species. It proved to be ordinary *S. molle*. He had forgotten that there is a member of Section *Acutifolia* whose branch leaves have a resorption furrow. It is not often that he can be caught like this.

With the help of Bill Buck, Howard's published contributions to bryology are enumerated at the end of this article. Considering the seriousness and frequency of his illnesses they are nothing short of amazing. There are scarcely any breaks in the flow of publications through these years, indicating that he worked through and around his indispositions. He continues to work at the same pace. I can detect no let-up in quantity or quality of his output and there are still many more contributions to come.

I hesitate to attempt an assessment of Howard Crum's contribution to Bryology because I have a strong prejudice in his favor. Wilf Schofield, who has been one of Howard's associates over the years, has this to say: "I consider Howard to be one of the major bryologists of the 20th Century. He is intensely engaged in a fascination for bryophytes. I can attest that, once contracted, this condition is usually incurable. This commitment shows in his teaching, his lucid style of writing, and his sharing of his considerable knowledge through these potent means of communication." This says it well. Too, I think the scholarly qualities of his papers, reviews, and books, as well as those of his students, have set an example that has influenced bryology immensely, especially in North America.

His professional experience, services and awards are summarized below.

Instructor, Western Michigan College, 1946–47; Rackham State College Scholar, University of Michigan, 1947–48; Teaching Fellow, University of Michigan, 1948–49; Rackham Pre-Doctoral Fellow, 1949–51; Research Biologist and Acting Assistant Professor, Stanford University, 1951–53; Assistant Professor, University of Louisville, 1953–54; Research Assistant, Duke University, Summer 1954; American Bryological and Lichenological Society (Editor, *The Bryologist*, 1954–62, Associate Editor, 1962–76; President, 1962–63); Curator of Cryptogams, National Museum of Canada, 1954–65; Visiting Lecturer, University of Michigan Biological Station, Summer 1958; Lecturer, Carleton University, 1961–62; Curator, University Herbarium and Associate Professor of Botany, University of Michigan, 1965–69, Curator and Professor, 1969–present; Chairman, Department of Botany, University of Michigan, 1981–83; British Bryological Society (Associate Editor, *Journal of Bryology*, 1972–77); Academic Counselor, College of Literature, Science and Arts, University of Michigan, 1973–76, 77–present; Nordic Bryological Society; Southern Appalachian Botanical Club; Sigma Xi; Michigan Botanical Club (Board of Directors, 1977–84; Associate Editor, *The Michigan Botanist*, 1975–76, 85–present, Editor, 1977–84; President, Huron Valley Chapter, 1974–75); Editorial Board, *North American Flora*,

1985–present; Ruth M. Sinclair Memorial Award for Freshman-Sophomore Counseling, 1978; H. A. Gleason Award for Excellence in Botanical Publication, 1981 (presented to H. Crum and L. E. Anderson); Abstracting for *Excerpta Botanica* (1959–83); Convener for Bryological Foray and Sessions, IX International Botanical Congress, Montreal, 1959.

Crum! You bore me. I'm quitting.

ACKNOWLEDGMENTS

I am not sure that I can remember all the kind people that have helped me with this article. Because of the surprise element, I was not able to contact the best source of information, Howard Crum himself. I hope he will forgive errors. Foremost, I am indebted to William R. Buck. He has not only been a constant nag, his help with the bibliography greatly improved its accuracy and completeness and he has been a durable source of information and has helped in countless other ways. Irene Crum has provided me with a wealth of information that only she could supply. She has added greatly to the spice of the account. Bill Anderson kindly provided me with a copy of Howard's CV. The letters that Roger Crum, Mary Crum Scholtens, Bill Anderson, Joe Rohrer, Wilf Schofield, Jack Sharp, Jerry Snider, and Dale Vitt wrote me have been invaluable and their consent to be quoted is most appreciated. Pictures have been provided by Irene Crum, Mary Crum Scholtens, Bill Buck, Jerry Snider, and Dale Vitt. Finally, my wife, Pat, acted as chief censor, and Molly McMullen helped with the manuscript. I am grateful to both of them.

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